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ASSESSING GROWTH, INEQUALITY, AND POVERTY IN THE LONG-RUN: THE CASE OF SPAIN [*]

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Abstract

Growth and inequality over the long-run are assessed and their impact on poverty calibrated on the basis of López and Servén (2005) recent empirical research. Spain's per capita income multiplied by 15 between 1850 and 2000, while private consumption per person did it by 12, but did such a growth have an impact on absolute poverty reduction? The paper concludes that long-run growth, to a larger extent, together with a mild decline in inequality, led to a substantial reduction in absolute poverty during the last one and a half centuries. In a comparative framework, Spain shadowed Latin American poverty until the 1960s when she initiated a sustained process of convergence to Western European levels.

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In this paper long-run growth and inequality in Spain are assessed and their impact on poverty reduction calibrated within a comparative framework. The extent to which sustained per capita GDP growth effects the lower deciles of income distribution depends on the initial level of development, the degree of income inequality, and how sensitive poverty is to variations in income and inequality.

In section I it will be shown that Spain's modern economic growth is far from a failed experience, against the pessimistic qualitative assessments of the pioneers in Spanish modern economic history writing in the 1960s and early 1970s (Nadal, 1975; Sánchez-Albornoz, 1968; Tortella, 1973). But, did economic growth have an impact on poverty in the long run?. Assessing inequality over time is a prerequisite to investigate poverty reduction. In absence of direct estimates of income distribution based on microeconomic evidence prior to 1965, an indirect and macroeconomic approach to appraising inequality will be explored in section II. Lastly, in section III, an attempt will be made to establish trends in poverty over one and a half centuries.

Long-run growth

Since mid nineteenth century modern economic growth has irreversibly proceeded in Spain. The steady increase in the aggregate economic activity, at almost 2.5% per year, represents, over a period of a century and a half, a multiplication coefficient of 39. Meanwhile, population increased more than two and half times. Product per head by 2000 was, hence, 15 times greater than by 1850 (Graph 1).

Three main phases: 1850-1950, 1951-1974 and 1975-2000, can be identified in Spain's long-run performance (Table 1), which exhibit marked differences in growth[1]. During the so-called 'Golden Age' (1951-74) GDP per capita rose seven times more rapidly than during the previous century (1850-1950) and twice as fast as during the last quarter of a century (1975-2000). In this context, the Civil War (1936-39) represented a drop during the first period and reduced the long run per capita growth rate by 0.25% annually.

[1] Econometric testing suggests that absolute and per capita GDP series are trend stationary with structural breaks in level (1936) and in trend (1951 and 1975) (Prados de la Escosura, 2003, chapter 5).

Continuity in economic growth between 1850 and 1950 is at odds with a widely held interpretation that emphasizes the nineteenth century as a period of failure and the twentieth century as one of economic success (Tortella, 1994), while confirms previous claims of steady trend growth over 1850-1935 (Cubel and Palafox, 1998; Carreras, 1987, 1992). Long-term continuity is, however, compatible with long swings in which the growth rate differs from the trend growth (Table 2). Changes in economic policy, access to international markets and technological change would play a part in the four long swings that can be established during the hundred-year era of steady and moderate growth prior to 1950. The first two phases cover the period between 1850 and 1920 with 1883 as a turning point**,** while the third phase covers the years from 1920-1929 and the fourth, from 1929-1952.

During the first long swing, 1850-1883, output per person grew significantly higher than during the rest of the nineteenth century. A 'reconstruction effect' after the political instability and social strife associated to the fall of the *Ancien Régime* and the emergence of liberal institutions in the early nineteenth century, together with the opening up to international competition lie behind it. Inflows of capital from abroad made it possible to break the close connection between investment and savings and must have contributed to the economic expansion (Prados de la Escosura, 2005).

A slowdown in the rate of growth occurred between the mid 1880s and 1920. This long period of institutional stability could have favored investment and growth yet both permanent and temporary factors worked against this. The increasing isolationism suffered by Spain's economy would offer the most plausible explanation for the fact that despite the institutional achieved during the Restoration, the rate of growth faded sharply. Increasing tariff protection and not belonging to the prevailing international monetary system, the gold standard, seem to have represented a major obstacle to Spain's integration in the international economy[2]. The Cuban War of Independence, despite the already weakened economic links between the metropolis and the colony, caused significant macroeconomic instability as it brought forward the fall of the peseta[3]. The delayed depreciation of the

[2] Cf. Tena (1999), Palafox (1999) and Pardos (1998) on tariff protection and its effects. See Martín Aceña (1994) and Bordo and Rockoff (1996) on the gold standard.
[3] See the discussion in Fraile and Escribano (1998), Maluquer de Motes (1999) and Prados de la Escosura (2005).

peseta after gold convertibility ceased had negative consequences for factor mobility such as the reduction of capital inflows and the slowdown in emigration to Latin America[4]. Although it had little direct economic impact, the nationalist reaction, which was both protectionist and isolationist, may have been a political consequence of the loss of Cuba (Fraile and Escribano, 1998). Neutrality during World War I did not provide the economy with the stimulating aggregate effects usually assumed[5]. Absolute GDP hardly grew (0.56% annually) while fell slightly in per capita terms (-0.1%).

The most notable feature of the 1920s is the sharp GDP growth which was above, in both absolute and per capita terms, the trend growth rate achieved over the century and a half under study. It is worth noting the widespread view that this growth took place in an economy suffering from steadily increasing isolation. Levels of both intervention in and regulation of economic activity increased during Primo de Rivera dictatorship (1923-1929) (Comín, 1987a; Fraile, 1998). Government intervention to safeguard the domestic market from foreign competition and, on the other hand, investment in infrastructures, has been argued, were decisive factors behind this growth (Velarde, 1968). However, the emphasis on tariff protection tends to conceal the fact that foreign markets opened up during the 1920s. Alongside significant inflows of foreign capital this allowed the purchase of capital goods and raw materials which made acceleration in the growth rate possible (Prados de la Escosura and Tena, 1994; Tena, 1999). The favorable balance of payments on current account during World War I also contributed apparently to the boom of the 1920s (Sudrià, 1990).

Lastly, the period 1929-1952 represents the fourth long swing in which GDP grew slightly, at a pace less than half that of the period between 1850 and 1950, and real product per head fell. The impact of the Great Depression has been much debated, as it coincided with the Second Republic and the political and social unrest leading to the Civil War. The effects of the Depression in Spain in aggregate terms were moderate within an international context, but more persistent. The question regarding possible economic causes behind the Civil War (1936-1939) also arises. The lively performance of Spain’s economy in the 1920s, when improved per capita GDP was accompanied by similar or larger increases in

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[4] Cf. Martín Aceña (1999) and Prados de la Escosura (2005) on mobility of capital and Sánchez Alonso (2000) on emigration.

private consumption per capita and high levels of investment per worker, does not support the old stereotype that the population's state of destitution and poverty, in a context of economic stagnation, was a contributory factor leading to civil strife and war. On the contrary, the idea that rapid growth led to a "war of attrition" regarding income distribution that intensified social and political tensions, could be put forward[6].

A period of contraction during the Civil War and World War II was followed by a weak recovery from 1944 to 1952 in clear contrast with the pace of reconstruction in other Western European countries (Catalan, 1995). Spain did not recover pre-war GDP levels (1929) in absolute terms until 1951, and 1955, in per capita terms; whereas in Europe, it only took an average of 6 years after World War II to return to pre-war levels of per capita GDP (Crafts and Toniolo, 1996). The slow recovery is more intriguing as the drop in Spanish GDP was far smaller than in most European countries[7].

In the assessment of the slow post-bellum recovery the impact of war on factor proportions appears to be relevant. While destruction of physical capital in Spain during the Civil War fell short of the levels recorded in the Western European countries during World War II, the loss of human capital may have been greater in relative terms[8]. The political repression of the Franco dictatorship in Spain and the exile after the Civil War meant a significant loss for Spain's limited human capital[9].

The change in trend which began in 1951 brought an end to the period of moderate progress which had characterized Spain's situation for a century and ushered in an exceptional phase of rapid growth which lasted until 1974. It is worth highlighting the fact

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[5] Cf. Roldán and García Delgado (1973) for the conventional view on the impact of the Great War.

[6] The truth is that if poverty or stagnation were the causes of the Civil War, there were other previous moments in history when such a conflict would have been more justified. There are other historical examples in which a link could be suggested between perceived relative deprivation and conflict following a period of economic expansion: France at the end of the 18th century, Russia in the early years of the 20th century and Mexico following the Porfiriato. Cf. Crouzet (1967), Gregory (1994) and Coatsworth (1990) respectively.

[7] Thus, at the trough in during the Civil War [1938] Spain's GDP was equal to that of 1920 -and in per capita terms, to that of 1910-, while the corresponding year for France's GDP was 1891 and for Italy and Germany, 1908) (Crafts and Toniolo, 1996: 4).

[8] Prados de la Escosura and Rosés (2005a) estimate the destruction of physical capital at around 8 per cent of the existing *stock* of capital in 1935, which would represent an average level of destruction in the context of the Second World War, although the concentration on productive capital (especially transport material) meant that levels of destruction caused by the conflict in Spain were far from negligible. Cf. . Barciela (1986) and Catalan (1995).

[9] Regarding interior and exterior exile, cf. López (1991) and Plá (1994, 1999). Cf. López (1996) on the destruction of human capital.

that during the 'Golden Age' of economic development in Western Europe (1950-1973), the real spurt of economic growth in Spain, as in other Peripheral countries (Ireland, Portugal, and Greece) did not take place until after 1960. The persistence of the autarkic system, gradually eased over the '50s, underlies the lateness of Spain's economic spurt. During the 1950s, industrialization in Spain was almost totally dependent on internal demand. The high volatility of import capacity rendered investment risky, which reduced the rate of capital accumulation, while both possible inflows of foreign capital and new technology were restricted. In a way, Spain's case supports the *counterfactual* which maintains that without the Marshall Plan, commodity and factor markets controls, quantitative restrictions on international trade and exchange control would have continued to be the main economic policies as they had been in the Interwar (Prados de la Escosura and Sanz, 1996)[10]. The move towards a more pro-market attitude with deregulation and the gradual opening up of the economy which began with the 1959 reforms made it possible, despite persistent intervention in some sectors, to bring about a change of direction.

A change of trend began in 1975 and this situation has continued until the present. Despite a fall of 50% in the pace of growth with respect to the 'Golden Age', Spain did not return to the old trend established in the 100-year period prior to 1950. The expansion which accompanied entry into the European Union, after overcoming a decade of crisis and change, did not represent, however, a structural break in Spain's long term growth.

Gross Domestic Product per person (GDP/N) can be broken down, as an identity, into its components: output per employee (GDP/L), the employment rate (L/EAP), the activity rate, (EAP/PAP), that is the ratio of the economically active population (EAP) to the population ages 15 to 64 or potentially active population, (PAP) and finally a demographic variable: the ratio between the potential workforce and the total population (PAP /N). Thus,

$$GDP/N = (GDP/L) * (L/EAP) * (EAP/PAP) * (PAP/N) \quad (I)$$

and in rates of change expressed in lower case letters,

$$gdp/n = (gdp/l) + (l/eap) + (eap/pap) + (pap/n) \quad (II)$$

[10] The idea that the Marshall Plan's main contribution was to encourage a pro-market economic policy has been suggested by Eichengreen and Uzan (1992). Calvo (1999, 2001) has shown that in Spain there are similarities between the incentives for the market to operate as a mechanism of resource allocation provided by the USA-Spain agreements of 1953 and the Marshall Plan in Europe.

Table 3 shows the evolution of product per head and each of its components, expressed in rates of growth, for all the long swings and cycles identified over the last century and a half. These figures indicate that a demographic gift (a larger share of population in working age) was responsible during the demographic transition for a significant part of per capita GDP growth during the early and final phases of the long period under consideration (1850-1866 and 1986-2000). It also played a part in moderating the economic slowdown in the critical moments of World War I and the 1930s and 1940s as well as during the transition to democracy (especially over 1978-1986). On the contrary, it became a demographic burden with a negative effect on income per person during the 'Golden Age' (1951-1974).

The increasing rate of activity tends to reinforce the demographic gift on per capita GDP growth in the early and final sub-periods (1855-74 and 1986-2000). Employment creation also played a distinctive role during the 'Golden Age' (1952-74) and after Spain's admission in the European Union. The fall in the activity rate proved an obstacle to growth during World War I and, especially, during the years of the Civil War and World War II, as well as during the transition from dictatorship to democracy, when it aggravated the negative consequences of unemployment for GDP per capita. During the latter, the tendency for female employment to raise was offset by the impact of unemployment, more intense among women and the young that about adult men.

Capital formation played a vital part in raising labor efficiency, investment per worker rising over the 150-year period studied (Graph 2). Phases of increased investment roughly correlate with those of intense aggregate economic activity: 1850-1883, the 1920s and the 'Golden Age' (1951-74), although the correlation is less clear when these periods are analyzed in more depth. Investment expansion was abruptly cut short, however, by external shocks such as the First World War, the Depression of the 1930s (possibly further influenced by institutional instability during the II Republic, 1931-36), or the 1866 Crisis and. During the years of transition to democracy (1976-85), capital formation fell as the contraction in private investment outweighed the rise in public investment.

The similarity between the investment curve and that of imports, suggests a connection between economic growth and exposure to international competition. Three distinct phases can be identified in Spain's exposition to international market forces (Graph 3). The first phase, one of expansion, until 1913 with more intense growth being registered in the years leading up to 1892 when the rate of openness (exports plus imports ratio to GDP) managed to exceed 20% of GDP. During the second phase, between 1914 and 1958, exports and imports relative to GDP were low, reaching a nadir in the years 1935-1952 when the openness rate fell below 10%. Finally, the reforms which accompanied the Stabilization and Liberalization Plan (1959) gave way to a period of gradual and unbroken exposure to international competition during which the degree of openness of the early 20th century was regained in the mid 1960s. In the last decade of the twentieth century openness doubled, reaching 50% of GDP for the first time.

An assessment of Spain's long term economic growth would be incomplete without a comparative perspective. When compared with the advanced Western European nations and the United States of America Spain's long term growth appears rather similar (Table 4 and Graph 4). If we focus on the three main phases identified for Spain's economic progress, we notice that while the growth rate for the one-hundred year period before 1950 is clearly lower than that recorded in the advanced countries, the opposite is true for the second half of the twentieth century. The difference in favor of Spain is greater during the so-called 'Golden Age' when Spain's rate of growth was twice that of the United States and the United Kingdom and 50% higher than that of developed continental Europe. These figures underline the fact that Spain's economy has reduced the gap with other advanced nations over the last 50 years, having fallen behind during the period between 1850 and 1950.

The division of the comparative analysis of Spain's economy into long swings and cycles allows us to qualify such assertions. During the half century leading up to the First World War the difference between Spain and Western Europe was less than 0.3 points while in the first half of the twentieth century the disparity between European growth and Spanish growth deepened. A closer look reveals that, in the years 1883-1913, Spain fell behind the advanced countries of continental Europe, the United States and even Great Britain. It is the period between 1929 and 1952, however, when Spain's economy fares worst in this comparison. These years coincide not only with the slump caused by the Civil War and her faltering post-war recovery.

To summarize, this comparative perspective provides us with a fuller picture of Spain's economic performance (Graph 5). The second half of the nineteenth century witnessed a consolidation of sustained growth as the gap with the industrialized countries widened. In the early twentieth century Spain did not manage to make substantial progress compared with other European nations. The progress made in the 1920s and the reduced impact of the 1929 crisis in Spain were more than outweighed, after the outbreak of the Civil War, by Spain's exclusion from the European recovery in late 1930s. The 1940s was a phase of postponement in Spain's economy and despite not being involved in the war, she grew more slowly than the warring Western European nations. The figures for the second half of the twentieth century, on the other hand, show that Spain outperformed the advanced nations leading to an improvement in her relative international position. In the 1950s, however, Spain was unable to close the gap with the advanced nations. The progress achieved in the 15-year period leading up to 1975 allowed Spain to recover the international position held at the beginning of the twentieth century. After the worsening of the situation associated with the transition from dictatorship to democracy, a phase of lively recovery was initiated leading to a situation by 2000 in which Spain, in relative terms, is in much the same position as she was in 1975. On the whole, the relative position of the Spanish economy is worse today than it was in 1850 and has hardly changed since the late nineteenth century.

Decomposing relative GDP per head to OECD into its main components is revealing (Graph 6). Labor productivity shadowed GDP per head but on a higher level, due to a lower activity rate, that can be attributed to a lower female participation. This feature could be attributed, at least, in part, to the predominance of dry farming and, in some regions, extensive livestock, usually much less female labor intensive than cash crops on irrigated lands. Examples of this are provided by Argentina's Pampas, and by the U.S. mid-west dry farming, as well as by Britain's livestock dominated agriculture (O'Brien and Prados de la Escosura, 1992). It is also worth mentioning that since 1970 labor productivity has been negatively correlated with labor participation which points to low capital intensity and slow TFP growth.

Growth and Inequality: An Indirect Look

Did economic growth have an impact on the poor over the last century and a half? How much of the sustained growth in GDP per head percolated through to reach the lower quintiles of income distribution? In absence of direct estimates of income distribution for most of the period considered and with even more scant data on the evolution of poverty (household budget surveys- *Encuesta de presupuestos familiares*- only started in 1964), an indirect approach is necessary. From available macroeconomic evidence average levels of material welfare (for example, per capita consumption) or the extent of structural change (i.e., the shift of labor away from agriculture) can be gathered. As poverty tends to concentrate in rural areas, productivity performance in agriculture and urban-rural migration matter for inequality and poverty reduction. How much of the increased income accrued to raw labor, the factor of production more evenly distributed and the only one that most poor possess in developing countries (as was the case of Spain for most of the period considered), is most relevant to trace inequality evolution. I will, then, examine the evidence on agricultural performance and structural change, as well as the functional distribution of income.

Private consumption per head, an indicator which, the provision of public services and income distribution aside, reflects welfare level, increased by 12 times during the century and a half studied, while per capita income did it by 15 times (Graph 7). Nevertheless, this advance did not happen gradually as the growth rate of real private consumption per person would have taken 123 years, 13 years and 28 years to double its level for each of the three main phases identified (1850-1950, 1951-74, and 1975-2000). The growth of private domestic consumption only fell substantially behind GDP growth in the early twentieth century and up to World War I, and during the Civil War and World War II (1935-1944). To a lesser extent this also happened over the 1990s. The bottom line is, hence, that present consumption was not sacrificed to investment in order to raise future consumption and, consequently, there is no parallel with the experiences of Asian NICs (Young, 1995; Crafts, 2000).

As far as total Government consumption is concerned, in the long term it grew slightly faster than GDP mainly due to the performance of the last quarter of the twentieth century when it increased by almost 50% in comparison with the period 1850-1974, as a consequence of setting up the welfare state, regional devolution (the emergence of 17 autonomous regions) and industrial restructuring of obsolete and non-competitive manufacturing grown under strong protectionism and heavy Government intervention (Comín, 1992, 1994; González-Páramo, 1992). Regional devolution and the welfare state carried with it an increase in the size of the State and a progressive fiscal reform that raised the share of direct taxation in growing public revenues. The outcome of the new democracy after Franco's dictatorship, progressive taxation and substantial increases in public expenditure on social transfers (unemployment, pensions), education, and health would have had an non negligible impact on income distribution (Gimeno Ullastres, 1999) and, consequently, effect poverty levels.

Inequality between town and countryside represents a persistent phenomenon in developing countries. The shift of labor away from agriculture that has usually accompanied urbanization and productivity growth in agriculture constitutes a means to reduce it. In a context of imperfect mobility of factors and apparently persistent differences in marginal labor productivity between sectors, as was the historical case of Spain, the transfer of labor from low productivity agriculture to other sectors with higher levels of productivity, played a part in increasing the economy's aggregate productivity. The contribution of agriculture to total employment and output fell gradually except for the 1940s when it edged ahead of industry. A gradual fall in agricultural employment (Graph 8) began in the 1880s, gathered pace in the 1920s and, after the 1940s reversal, the downturn accelerated through the late twentieth century. Labor productivity in agriculture experienced a moderate increase between 1850 and 1913 (0.5%), then, its rate went up fourfold during the growth years 1913-1929, to decreasing in absolute terms until 1950. After 1958 the significant increase in output per worker is linked to the shift of labor away from agriculture, as was the case in the Interwar years. Since 1974, the largest increase in productivity has taken place in agriculture where its level has increased fivefold.

Relative to the economy as a whole, labor productivity in agriculture (Graph 9), after decreasing in the late 1880s, remained stable for almost 70 years before dropping sharply in the 1960s. Then it leveled off before falling once more and, since the mid 1980s, establishing a phase of steady recovery. The stability of relative agricultural productivity, hardly affected by the sector's steady reduction in its employment share, underlines the gradual structural transformation experienced by Spain prior to 1960. Capital deepening and the introduction of new vintage technology explain the dramatic fall in relative agricultural productivity during the years leading up to 1975. The destruction of employment in agriculture over the last quarter of the twentieth century, which fell from around a quarter to less than 10% of Spain's workforce, lies behind the lively recovery of relative agricultural productivity.

The role of structural change in productivity growth is usually given a prominent place in the literature on economic development and, in our particular case, can help to explain the extent to which sustained economic growth contributed indirectly to inequality and poverty reduction. The increase in aggregate productivity can be broken down into the part contributed by the increase in output per worker in each economic sector (internal productivity) and the part which is caused by the shift of labor from less productive to more productive sectors (structural change). The method normally used for this calculation, *shift-share analysis,* involves estimating, in the first place, internal productivity growth, that is the result obtained by adding the growth of output per worker in each economic sector without varying the initial structure of employment. The difference between aggregate productivity and internal productivity will then provide the contribution of structural change. However, it would seem more reasonable to assume that agricultural productivity improved between 1950 and 1975 due to the reduction in the number of workers. For this reason the contribution of structural change to the increase in productivity obtained using the conventional *shift-share analysis* is a lower pound. An upper bound is obtained using a modified version of the conventional *shift-share analysis:* in which an exception is made for those sectors where contribution to employment falls (for example, agriculture over the whole period considered and industry since 1975), here the difference between the increase in aggregate employment and that of employment in that sector would be subtracted from the sector's output per worker growth.

Structural change, as measured with the upper bound estimate (Graph 10), would account for almost 40% of aggregate productivity growth achieved over the last 150 years (Table 6) and, hence, explains more than one third of per capita GDP growth (Table 3). If the long swings in economic growth are considered in turn, the role of structural change, although significant, tends to decrease over time. Between 1883 and 1929, structural change accounts for half of the increase in labor productivity. During the 'Golden Age' (1951-74) aggregate labor productivity grew more than eight times faster than over the preceding 100 years and more than one third of this growth was provided by structural change, a contribution that increased to more than a half in the 1950s. Over the last quarter of the twentieth century structural change has, once more, accounted for a quarter of the increase in aggregate labor productivity. Much of the rapid rise in labor productivity in agriculture since 1975 is to be found in this shift of labor away from agriculture (which still employed one in four workers in 1975). If we focus, in turn, on phases of growth deceleration such as 1883-1913, without a shift of agricultural labor towards industry and services, aggregate labor productivity would have grown by just 0.2%, whilst the fall in level would have been even sharper in the early 1930s and the post-war recovery between 1945 and 1952 would have been slower still.

Did structural change help to reduce poverty and inequality? The rural-urban divide usually contributes significantly to a developing country's inequality. Productivity increases in the rural sector, agriculture in particular, provides, through higher wages, the means to poverty reduction in the countryside. Migration to towns and cities usually represent an improvement in standards of living both for those who leave and for those who stay in rural areas. What does the empirical evidence suggest for the case of pre-Civil War Spain?. Rosés and Sánchez-Alonso (2004) have recently presented purchasing power adjusted wage gaps for Spain between 1850 and 1930. A sharp decline in the rural-urban wage gap occurred, more intense up to 1920 that tended to stabilized thereafter. Interestingly, Rosés and Sánchez-Alonso (2004) find a more modest role for migration in wage convergence that previously assumed in the literature (Simpson, 1995; Silvestre, 2003). The skilled/unskilled wage gap is, in turn, part of the explanation for the inverted U-shape of the Kuznets curve. The skilled wage/unskilled wage gap followed a similar pattern to the rural-urban wage gap, and after falling from mid-nineteenth century to 1920, tended to stabilize.

Spatial inequality has also been affected by the joint forces of growth, structural change, and public policies in Spain. Changes in regional or provincial distribution have been approached within a sigma- and beta-convergence conceptual framework. The moderate decline observed for the early twentieth century was reversed after the Civil War

(1936-39) (Prados de la Escosura, 1992; Domínguez, 2002). From the mid 1950s to 1980 a sharp reduction in regional inequality took place to stabilize during the last two decades of the twentieth century (Cuadrado Roura, 1999; de la Fuente 2002). Technological catch-up, the generalization of basic education and the spatial redistribution of employment account, according to de la Fuente (2002) for most of the observed reduction of regional disparities.

Another way of assessing the impact of growth on inequality is to look at the functional distribution of income. The labor share, however, includes not only returns accruing to raw, unskilled labor but also to human capital. Preliminary estimates suggest that human capital became a relevant factor only in the late twentieth century (Prados de la Escosura and Rosés, 2005b). Returns to unskilled workers, wage-earners and self-employed (including small farm owners) are, hence, represented by labor compensation in national income, at least, between 1850 and 1950. The labor share (including wage and non-wage earners) in national income experienced a long-term decline in the late nineteenth century, reversed only in part at the turn of the century, and fell again till 1920 (Graph 11). In the Interwar the labor share went up, but declined once more in the 1950s. A sustained increase took place after the Stabilization Plan (1959) and lasted up to the mid-1970s, followed by a steady though mild contraction during the last quarter of the twentieth century.

Can we infer, then, that prior to the 'statistical era' in which standard measures of income distribution can be derived from micro data and national accounts -that began, for Spain, in 1965-, inequality declined at the end of the nineteenth century, in the 1920s, and after the Stabilization Plan, and increased otherwise?.

To check this hypothesis, the 'inequality index' derived as the GDP per worker/unskilled wage ratio, proposed by Williamson (2002), provides a convenient though crude measure. The rationale for the index is that while the numerator captures returns to all factors of production per worked hour, the denominator only does it for unskilled labor, the more evenly distributed of factors. A long-term rise in the inequality index (smoothed here with a 11-year centered moving average to reduce its volatility) is observed (Graph 12) during the early phase of globalization between mid nineteenth century and World War I, more intense when the economy opened up (late 1860s to the early 1880s), and only broken in the following decade as Spain erected institutional barriers to international trade. After stabilizing at a high plateau in the early twentieth century, the inequality index fell steadily since the end of World War I. A reversion occurred in the 1940s with a steep rise in inequality that peaked in 1953. A long term decline in inequality took place thereafter. Thus, both measures of changes in income distribution, the labor share in national income and the 'inequality index', cast concurrent results.

It is worth pointing that up to 1950 Spain behaves as the New World countries (both Latin America's Southern Cone and the U.S.A.) that have, nonetheless, different factor proportions, and opposite to most western European countries. The Stolper-Samuelson theorem provides an explanation for the inequality rise in Spain during the early phase of globalization, prior to World War I, protectionism favored the scarce factors, land and capital, while penalized the abundant one, unskilled labor. This trend was reinforced at the turn of the nineteenth century by the fact that tariff protection did not push out workers as in other protectionist European countries (i.e., Italy and Sweden). The reason is that the depreciation of the peseta in the 1890s and early 1900s made more difficult the migration decision as the cost of passage increased dramatically (Sánchez-Alonso, 2000). It is worth stressing the contrast between wage convergence, with the partial closing of the rural-urban and unskilled-skilled wage gaps between mid nineteenth century and World War I (Rosés and Sánchez-Alonso, 2004) and the sustained rise in the inequality index observed for Spain. Such a discrepancy suggests that it was the returns differential between capital and land, the scarce factors, and labor, the abundant one, what mattered for inequality, rather than wage differentials among different types of workers.

The fall in inequality during the Interwar seems at odds with the hypothesis of a war of attrition on distribution at the roots of the Spanish Civil War. However, unfulfilled expectations by those at the bottom of the distribution, who perceived that the share of a growing GDP accruing to them was not enough, provides a more plausible hypothesis than the one that stresses absolute poverty. Accelerated growth and structural change, urbanization, and the rise in Government investment on infrastructures all helped reducing inequality in the 1920s.

The long-run picture of inequality can be only obtained by splicing the evidence gathered for the 'pre-statistical' era (prior to 1965), with the available evidence for the 'statistical era'. In a heuristic exercise, Gini coefficients available only from 1964 onwards have been projected backwards with the 'inequality index' (real wage/GDP per worker ratio). Several conjectures can be posed with Graph 13. Though, perhaps, initial inequality levels at mid nineteenth century are too low to be acceptable, a sustained increase is observed for inequality up to World War I that, then, reversed during the Interwar. The autarchy years (1939-58) witnessed inequality to peak as the redistribution of the 1930s was overturned. Once a cautious economic liberalization was introduced after 1959 inequality fell. This shift can be interpreted in a Stolper-Samuelson framework, inequality rise during autarchy as scarce factors, land and capital, were favored at the expense of the abundant and more evenly distributed factor, unskilled labor, while opening up to international commodity and factor market in the sixties and early seventies benefited labor, the abundant factor and the only one the poor possessed. Levels of inequality were, even so, still high by 1975. The 'transition from dictatorship to democracy' (1976-85) was accompanied by a sharp decline in inequality, especially up to 1981, that stabilized in the eighties. Increasing political participation and democratization which led to a progressive fiscal reform and to substantial increases in public expenditure on social transfers (unemployment, pensions), education, and health, underlies the reduction in inequality. Public expenditure on social services, especially on social security, health, and education had a strong redistributive impact[11]. Social expenditure (excluding education) had already started rising in the mid-sixties and doubled as a proportion of GDP in the last decade of Francoism (it went up from 5.9 to 12.5 percent), although its level remained small relative to the European average (it jumped from 38 to 56 percent between 1965 and 1975). A dramatic increased in social expenditure happened only after democracy was restored in Spain and its share in GDP reached 19.6 percent in 1981 and peaked in 1993 (26.7 percent) (Bandrés, 1999). When education is added, public expenditure on welfare almost doubled its share in GDP during the first two decades of democracy. High unemployment levels that originated during the 'transition' and prevailed throughout the last quarter of the twentieth century precluded a further reduction in inequality levels as it hit unskilled workers more intensively.

[11] For 1990 Kakwani progressiveness indices reached values of 0.44 and 0.31 for health and education, while the Pechman-Okner redistributiveness index cast values of 0.33 and 0.17, respectively (Gimeno Ullastres, 1999).

In the labor market, restrictive industrial rules introduced under Franco, which aimed to offset the prohibition of independent trade unions by prohibiting lay-offs, constituted a major shortcoming for employment creation. Such an institutional obstacle manifested during the 1970s oil shocks while the transition from dictatorship to democracy was occurring in Spain. Lack of market flexibility due to low labor mobility and high wage indexation were the main obstacles for reducing unemployment (Andrés and García, 1992). The rate of unemployment rose from 4 to 17.4% between 1975 and 1985 (Alcaide, 2003), with an average rate of 12.8 per cent over the decade. Labor destruction over 1975-1985 represented a 2 million fall in employment, within which agriculture had the larger share (1 million workers versus 0.8 million in industry and 0.4 in construction) against a labor force increase (0.6 million). The trend was reversed between 1985 and 1995 as employment increased in Spain by more than 1.7 million (as much as from 1957 to 1974), and job destruction occurred only in agriculture (0.7 million) although unemployment levels remained high and reached 18.9% in 1995, over twice OECD average. Spain's labor market suggested a case of hysterisis as transitory shocks, such as changes in factor relative prices in the 1970s, had permanent unemployment effects. Only after 2.3 million jobs creation in the late 1990s the unemployment rate shrank to 11.5% in 2000 (Alcaide, 2003: 55).

In a comparative perspective (Graph 14), Spain followed a similar pattern to that of Latin America until World War I, to depart from it during the Interwar. The rise in inequality during the autarchy years put Spain back at the level of Latin America's average around 1950. Ever since Spain has moved away from the Latin American path to converge toward the inequality levels of Western Europe.

Calibrating Long-run Trends in Absolute Poverty

How do the trends presented for inequality and economic growth impinge on poverty reduction?. No definite association between inequality and growth can be established. In the first epoch of Spain's modern economic growth, 1850-1950, the long swings of intensive growth, 1850-83 and the 1920s, corresponded to phases of increasing and declining inequality, respectively, while inequality deepened during the phases of sluggish economic performance. The 'Golden Age' of unprecedented growth (1951-74) witnessed a sharp reduction in inequality between 1955 and 1965 but it was partly reverted in the following decade. During the 'democratic transition' (1976-85) inequality fell while per capita income practically stagnated. From Spain's admission into the European Union till the end of the century rapid growth resumed but inequality hardly altered.

Poverty reduction depends on the initial level and the growth of average incomes, on the initial income distribution and its evolution over time, and on how sensitive poverty is to growth and inequality changes. Low initial levels of development preclude a deep impact of growth on poverty. If a fixed poverty line (PL) is defined and, if due to Spain's relative affluence a higher PL is chosen of, say, $4 (expressed in 1985 purchasing power adjusted international dollars, roughly twice as much in 2005 dollars) per person and day rather than the conventional $1 or $2, it is noticeable that it was not until the turn of the nineteenth century that average incomes (as measured by per capita GDP) reached the poverty line, and it was not until mid twentieth century that it was doubled.

How could growth and distribution changes effect the reduction in absolute poverty?. The combination of initial low development and growing inequality may have drastically reduced the impact of growth on poverty before World War I. High initial inequality would have also mitigated the effect of the acceleration in economic activity on poverty in the 1920s, as it would have been the case during the growth recovery of 1953-58. Inequality contraction at a time of faltering growth (the 1930s and the 'democratic transition', 1976-85) presupposes a weak influence on poverty reduction. The unprecedented growth of the 1959-74 era, and the fast recovery after accession to the European Union suggest, instead, a noticeable impact on poverty.

Can these conjectures be put to the test? Unfortunately, no microeconomic data on household expenditures is available to compute historical trends and levels of poverty in Spain before the late twentieth century. Research based on household budget surveys concentrates, thus, on the post-1973 period. Therefore, the following paragraphs only offer controlled conjectures on poverty trends drawn on the basis of aggregate evidence on growth and, arguably, on inequality. It should be stressed the questionable nature of the Gini indices derived prior to mid twentieth century, as they just result from backwards projecting the 1965 Gini coefficient with the 'inequality index'. A word of warning about direct Gini estimates is also necessary. No consensus exists on them among alternative estimates. WIDER (2004) and Deininger and Squire (1996, updated) present lower coefficients than, but similar tendencies to those provided by Alcaide (1999), that I have chosen for being the longer set of estimates computed in a consistent way. The empirical findings presented here, though highly tentative, provide explicit conjectures on poverty performance and hopefully offer testable hypotheses for further research.

I have calibrated the impact of growth and inequality changes on absolute poverty for the case of Spain on the basis of Humberto López and Luis Servén (2005) recent empirical research that draws on the largest micro database available so far, for a wide sample of developing and developed countries over the last four decades. Using a parametric approach López and Servén find that the observed distribution of income is consistent with the hypothesis of lognormality. Under lognormality, the contribution of growth and inequality changes to poverty reduction only depends on the average incomes/poverty line ratio and on a measure of inequality (the Gini coefficient). The poverty headcount, P_o, that is, the share of population below the poverty line, is derived as,

$$P_o = \Phi\ (\log (z / \nu)/ \sigma\ +\ \sigma /2),$$

$$\text{Where, } \sigma = \sqrt{2}\ \Phi^{-1}\ ((1 + G)/2)$$

In which Φ, is a cumulative normal distribution; ν, the average per capita income; z, the poverty line; σ, the standard deviation of the distribution; and G, the Gini coefficient.

A long run decline in absolute poverty, only altered by a reversal 'hump' in the autarchy years (1939-58), is the main feature of the evidence presented in Graph 15. Poverty reduction happened at a different speed: at a slower pace before World War I, that supports the view that the impact of growth on poverty is weakened in the presence of increasing inequality and low initial levels of development, and at a faster pace in the twentieth century, especially between 1960 and 1980, once the low initial income constraint was released. In phases of sluggish growth, poverty reduction was taken to a halt (in the 1890s) or reverted (during the autarchy, 1939-58). The influence of growth seems to have prevailed over inequality changes, as high initial inequality did not prevent a substantial poverty contraction in the 1920s and in late 1950s. Growth, once again, determined the reduction in absolute poverty in 1959-74. The fall in inequality more than offset, however, the faltering growth of the 'transition to democracy' (1976-85) and, hence, the proportion of those below the poverty line shrank.

When poverty performance in Spain is compared with that of Latin America (Graph 16) it emerges that, Spain shadowed the evolution of Latin American poverty (at its lower bound) until the 1960s, when she initiated a fast convergence towards western European levels.

Unfortunately, the controlled conjectures about poverty behavior in the long run cannot be confronted with hard empirical evidence. Only for the late twentieth century can my findings be checked. The inequality reduction, which mainly occurred in the late 1970s, was followed during the 1980s by an expansion in average expenditure. As a result, welfare in real terms, increased between 37 and 51 percent over 1973/74-1990/91 (Ruiz-Castillo and Sastre, 1999). And, if a fixed poverty line of 50 percent of average expenditure in 1973/74 is accepted, a significant decline in the proportion of the poor took place between 1973 and 1990. In per capita expenditure terms, the poverty headcount fell from 22.2 percent of the population in 1973/74 to 15.1 percent in 1980/81 and to 5.1 percent in 1990/91 (del Río and Ruiz-Castillo, 1999: 440). Thus, the findings of empirical studies on household budgets do not seem to reject the results derived from the historical calibration of poverty evolution offered in this paper.

Concluding Remarks

Growth and inequality over the long-run have been assessed in an attempt to calibrate their joint impact on poverty reduction.

Per capita income represented in 2000 15 times its level in 1850 and private consumption per person went up 12 times in the meantime. Three phases are identified, nonetheless, in Spain's economic performance, 1850-1950, 1950-1974 and 1974-2000. The widespread view of a nineteenth century of failure and a twentieth century of success is questioned by the continuity of growth between 1850 and 1950. In addition to the 'Golden Age' (1951-1974), significant growth occurred during 1850-1883 and in the 1920s. Phases of sluggish progress, 1883-1920, 1929-1952 and 1974-1986, account for the gap which still separates Spain from the advanced Western nations.

In addition to growth, changes of inequality also condition poverty reduction. Modern economic growth was accompanied by structural change that helped, in turn, to mitigate urban-rural inequality and, eventually, poverty. Inequality rose during the late nineteenth century and up to World War I, though partly reversed during the Interwar years. The autarchy years (1939-58) witnessed a peak in inequality and only when a cautious economic liberalization (1959) was introduced inequality fell, but inequality levels remained high. The 'transition to democracy' (1976-85) was accompanied by a sharp decline in inequality resulting from the redistribution brought about by the new welfare state and a progressive fiscal reform, and stabilized thereafter. In a comparative perspective, Spain's experience resembled that of Latin America up to the 1960s when she initiated an accelerated convergence towards western European levels of inequality.

A long run decline in absolute poverty resulted from long-run growth and inequality mild decline. Poverty was reduced at a slow pace until World War I as the initial level of development was low, and much faster from 1960 onwards once the low income constraint had been released. Growth prevailed over falling inequality as the main cause of poverty reduction, as the experiences of the 1920s, and the 1960-74 years suggest. The contraction in inequality led, nonetheless, to poverty decline despite faltering growth during the 'transition to democracy' (1976-85). The comparison to Latin America reveals, once again, that, Spain shadowed the evolution of Latin American poverty until the delayed 'Golden Age' (1960-74), when she converged towards OECD countries.

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Table 1
Trend Growth in Spain, 1850-2000 (%)

	Civil War's Impact Excluded			**Civil War's Impact Included**	
	GDP	**per capita GDP**		**GDP**	**per capita GDP**
1850-1950	1.55	1.00		1.34	0.71
1951-1974	6.35	5.23			
1975-2000	3.16	2.71			
1850-2000	2.59	1.96		2.40	1.71

Sources: Prados de la Escosura (2003).

Table 2
Phases of Economic Growth in Spain, 1850-2000
(annual average rates %)

	GDP	Population	GDP per capita
Panel A. Long Swings			
1850-1883	1.84	0.42	1.41
1883-1920	1.22	0.58	0.64
1920-1929	3.54	0.99	2.55
1929-1952	0.60	0.87	-0.26
1952-1958	4.35	0.84	3.51
1958-1974	6.92	1.06	5.86
1974-1986	2.50	0.73	1.76
1986-2000	3.48	0.17	3.31
Panel B. Cycles			
1855-1866	1.04	0.39	0.64
1866-1873	3.40	0.35	3.05
1873-1883	1.20	0.46	0.74
1883-1892	0.81	0.49	0.31
1892-1901	1.25	0.45	0.79
1901-1913	1.34	0.69	0.65
1913-1920	1.49	0.67	0.82
1920-1929	3.54	0.99	2.55
1929-1935	-0.02	0.96	-0.98
1935-1944	-0.55	0.88	-1.43
1944-1952	2.37	0.79	1.58
1952-1958	4.35	0.84	3.51
1958-1964	6.88	1.05	5.83
1964-1974	6.94	1.06	5.88
1974-1978	3.71	1.17	2.54
1978-1986	1.89	0.52	1.38
1986-1992	4.21	0.20	4.01
1992-2000	2.93	0.15	2.79

Sources: Prados de la Escosura (2003).

Table 3

Decomposing Per Capita GDP Growth. 1850-2000

	Per Capita GDP	GDP/ employee	Employment /EAP	EAP /PAP	PAP/ Population
Panel A. Long-run Trends					
1850-2000	1.80	1.73	-0.09	0.09	0.07
1850-1950	0.71	0.65		-0.01	0.08
1950-1974	5.44	5.34	-0.04	0.42	-0.28
1974-2000	2.60	2.58	-0.50	0.17	0.35
Panel B. Long Swings					
1850-1883	1.41	1.30		0.09	0.03
1883-1920	0.64	0.69		-0.04	-0.01
1920-1929	2.55	2.44		0.02	0.10
1929-1952	-0.26	-0.48		-0.05	0.27
1952-1958	3.51	2.98	0.04	0.84	-0.35
1958-1974	5.86	5.97	-0.08	0.21	-0.25
1974-1986	1.76	3.95	-1.76	-0.80	0.38
1986-2000	3.31	1.40	0.58	1.00	0.33
Panel C. Cycles					
1855-1866	0.64	0.34		0.11	0.20
1866-1873	3.05	2.80		0.34	-0.08
1873-1883	0.74	1.01		-0.15	-0.11
1883-1892	0.31	0.55		-0.17	-0.06
1892-1901	0.79	0.69		0.12	-0.01
1901-1913	0.65	0.69		0.03	-0.07
1913-1920	0.82	0.89		-0.21	0.14
1920-1929	2.55	2.44		0.02	0.10
1929-1935	-0.98	-1.39		0.21	0.20
1935-1944	-1.43	-1.13		-0.63	0.33
1944-1952	1.58	0.93		0.40	0.26
1952-1958	3.51	2.98	0.04	0.84	-0.35
1958-1964	5.83	6.46	-0.05	-0.24	-0.34
1964-1974	5.88	5.69	-0.10	0.48	-0.19
1974-1978	2.54	4.74	-1.09	-1.13	0.02
1978-1986	1.38	3.55	-2.10	-0.63	0.55
1986-1992	4.01	1.67	0.67	1.11	0.56
1992-2000	2.79	1.21	0.50	0.92	0.15

Sources: Prados de la Escosura (2003).

EAP: Economically Active Population; PAP: Potentially Active Population (15 to 64 years)

Table 4
Per Capita GDP Growth in Spain: An International Comparison

	Spain	Advanced Europe	Continental Europe	U.K.	U.S.A.
Panel A.					
1850-1998	1.77	1.69	1.73	1.40	1.83
1850-1950	0.71	1.20	1.22	1.06	1.66
1950-1998	3.97	2.70	2.75	2.08	2.19
1850-1913	1.02	1.26	1.27	1.20	1.70
1913-1950	0.19	1.22	1.25	0.92	1.59
1950-1974	5.44	3.62	3.74	2.25	2.27
1974-1998	2.50	1.77	1.76	1.90	2.11
Panel B.					
1850-1883	1.41	1.20	1.18	1.38	1.84
1883-1913	0.59	1.40	1.44	1.00	1.55
1913-1920	0.82	-1.04	-1.04	-1.12	0.66
1920-1929	2.55	3.31	3.48	1.36	2.41
1929-1952	-0.26	0.89	0.89	0.86	1.30
1952-1958	3.51	3.45	3.59	1.97	0.50
1958-1974	5.86	3.74	3.85	2.51	2.74
1974-1986	1.76	1.88	1.89	1.81	2.11
1986-1998	3.31	0.75	0.76	0.72	0.82

Sources: Maddison (1995. 2001), except for Spain. Prados de la Escosura (2003).

* **Advanced Europe** (population weighted average)
Germany, Austria, Belgium, Denmark, France, the Netherlands, U.K., Sweden, Italy, Finland, Norway, and Switzerland.
Continental Europe (unweighted): Advanced Europe, excluding the U.K.

Table 5
Spain's Relative Levels of Per Capita GDP (%)
(US Current Relative Prices)

	Advanced Europe*		**Western Europe ****	**U.S.A.**
	8 countries	***12 countries***	***14 countries***	
1850	91.0			64.2
1860	90.5			64.8
1870	75.8			56.0
1880	83.3	88.9	93.8	56.8
1890	79.4	85.1	89.9	56.8
1900	73.1	77.2	82.8	52.5
1913	72.3	75.9	80.8	51.1
1925	76.7	79.1	84.5	46.0
1929	75.1	77.6	82.9	46.2
1933	66.3	68.5	73.7	50.4
1938	46.4	47.8	51.3	33.8
1950	66.0	66.0	70.2	35.2
1955	64.9	64.8	69.0	36.4
1960	52.9	53.7	57.3	33.1
1965	60.9	61.7	65.8	42.1
1970	60.5	61.8	65.8	43.3
1975	71.1	72.0	76.7	57.3
1980	68.7	67.4	72.2	55.9
1985	68.6	67.6	72.1	48.1
1990	70.3	70.1	75.0	56.5
1996	71.7	70.3	74.3	54.7
1999	73.7	72.5	76.4	54.7

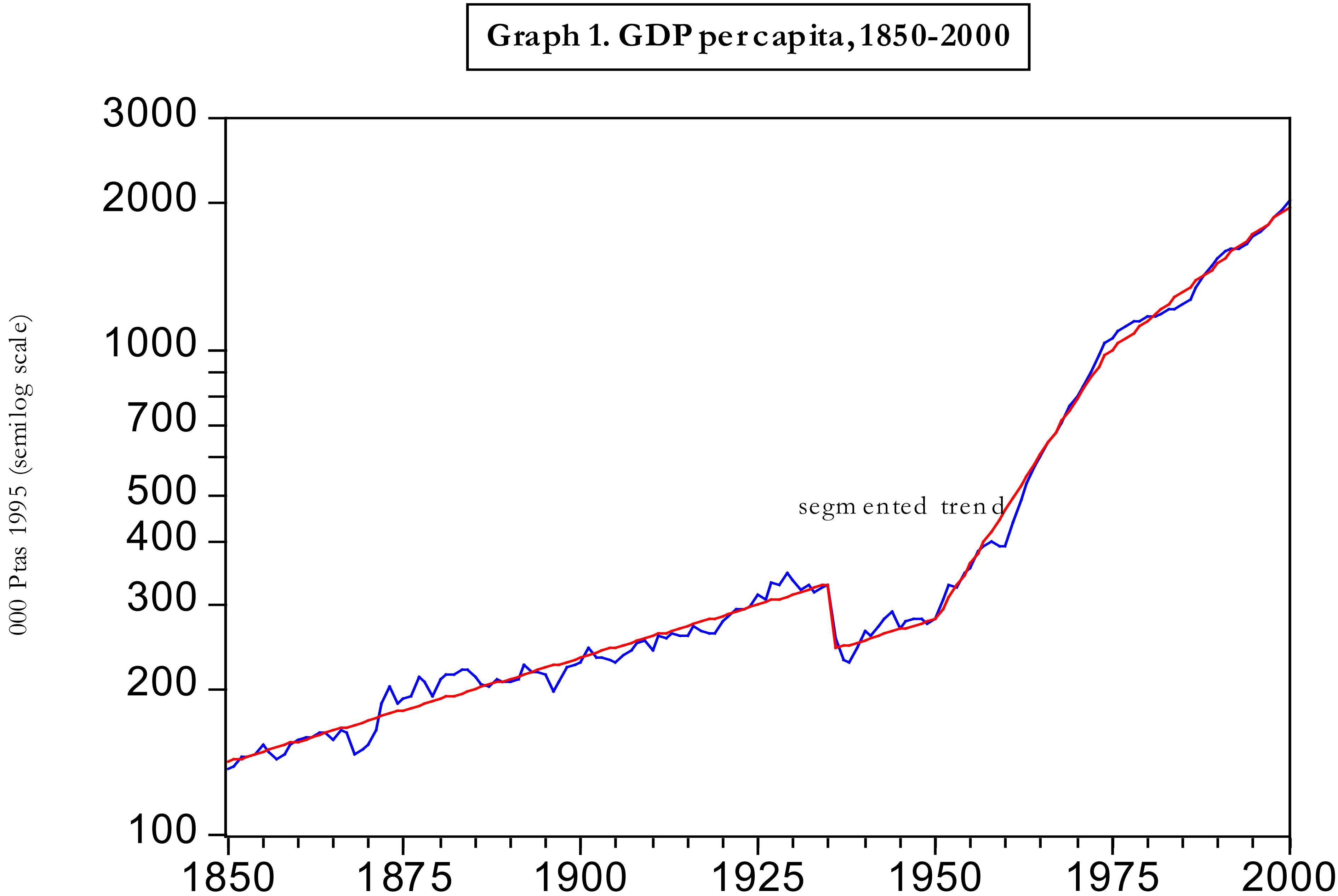
Sources: Prados de la Escosura (2000). 1850-1990; OECD (1999). 1996 and 1999.

*** Advanced Europe**
8 countries: Germany, Austria, Belgium, Denmark, France, the Netherlands, U.K., and Sweden,
12 countries: 8 countries plus, Italy, Finland, Norway, and Switzerland.
**** Western Europe**
14 países: 12 Advanced Europe's countries plus Greece and Portugal.

Table 6
Structural Change and Labor Productivity Growth. 1850-2000

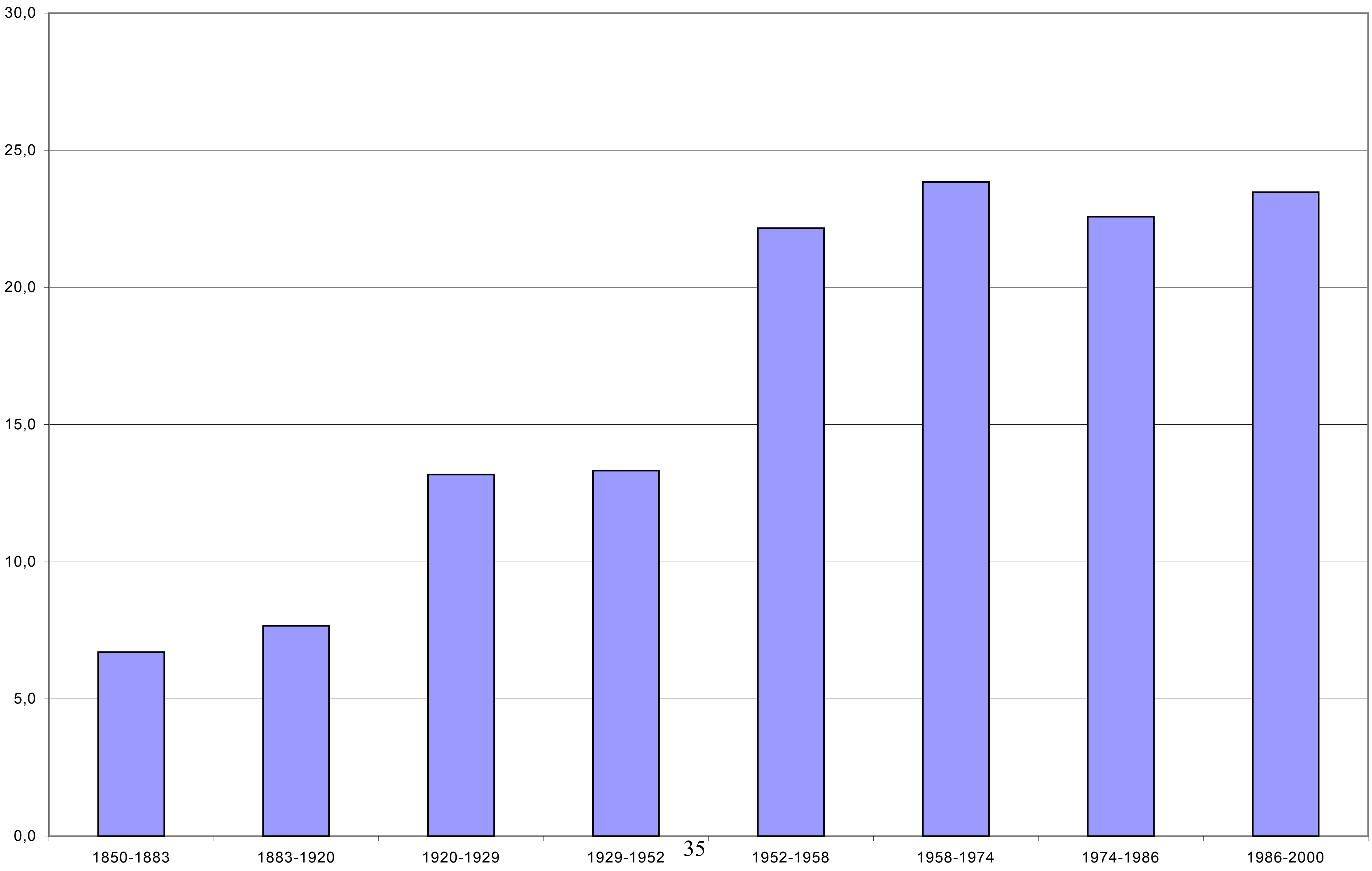
	GDP per employee	Internal Productivity *shift-share*	Structural Change lower bound	Internal Productivity *revised*	Structural Change Upper bound
Panel A. Long-run Trends					
1850-2000	1.73	1.59	0.14	1.06	0.67
1850-1950	0.65	0.44	0.21	0.27	0.38
1950-1974	5.34	4.92	0.42	3.44	1.90
1974-2000	2.58	2.97	-0.39	1.91	0.67
Panel B. Long Swings					
1850-1883	1.30	1.10	0.20	1.11	0.18
1883-1920	0.69	0.60	0.09	0.35	0.34
1920-1929	2.44	2.09	0.35	1.12	1.32
1929-1952	-0.48	-0.47	-0.01	-0.46	-0.02
1952-1958	2.98	2.29	0.69	1.31	1.66
1958-1974	5.97	5.36	0.62	3.82	2.15
1974-1986	3.95	3.85	0.09	3.04	0.91
1986-2000	1.40	1.71	-0.30	0.89	0.51
Panel C. Cycles					
1855-1866	0.34	0.15	0.19	0.20	0.13
1866-1873	2.80	2.68	0.11	2.72	0.08
1873-1883	1.01	0.35	0.66	0.28	0.73
1883-1892	0.55	0.38	0.16	0.24	0.31
1892-1901	0.69	0.70	0.00	0.53	0.16
1901-1913	0.69	0.24	0.45	-0.06	0.75
1913-1920	0.89	1.28	-0.39	0.92	-0.03
1920-1929	2.44	2.09	0.35	1.12	1.32
1929-1935	-1.39	-1.27	-0.11	-2.22	0.83
1935-1944	-1.13	-0.87	-0.25	-0.03	-1.09
1944-1952	0.93	0.85	0.08	0.48	0.45
1952-1958	2.98	2.29	0.69	1.31	1.66
1958-1964	6.46	5.41	1.05	4.20	2.26
1964-1974	5.69	5.29	0.39	3.84	1.85
1974-1978	4.74	4.46	0.28	3.58	1.16
1978-1986	3.55	3.43	0.12	2.76	0.79
1986-1992	1.67	1.99	-0.33	0.86	0.81
1992-2000	1.21	1.25	-0.04	0.89	0.32

Sources: Prados de la Escosura (2003).

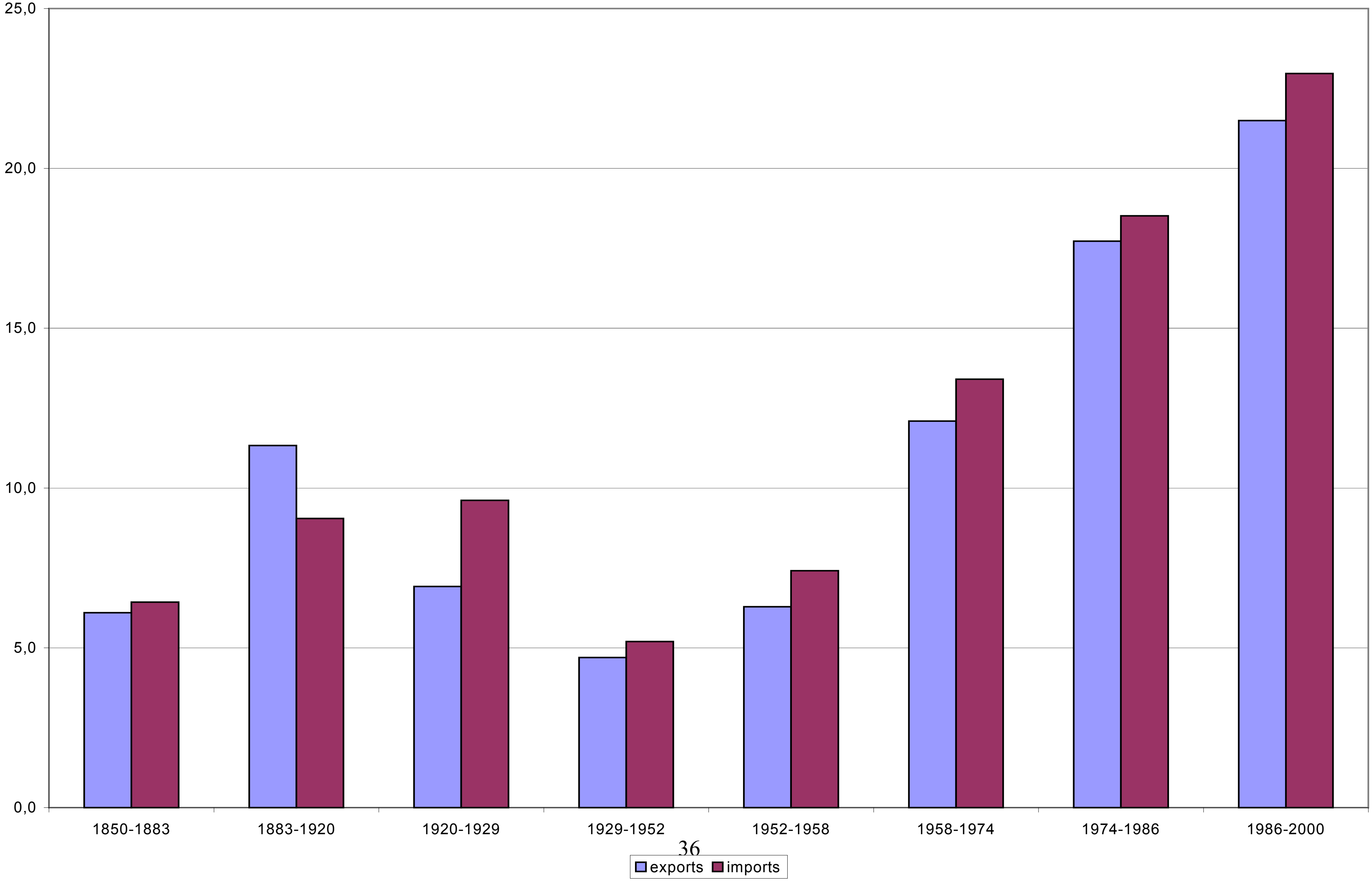


Graph 1. GDP per capita, 1850-2000
000 Ptas 1995 (semilog scale)
3000
2000
1000
700
500
400
300
200
100
segmented trend
1850
1875
1900
1925
1950
1975
2000

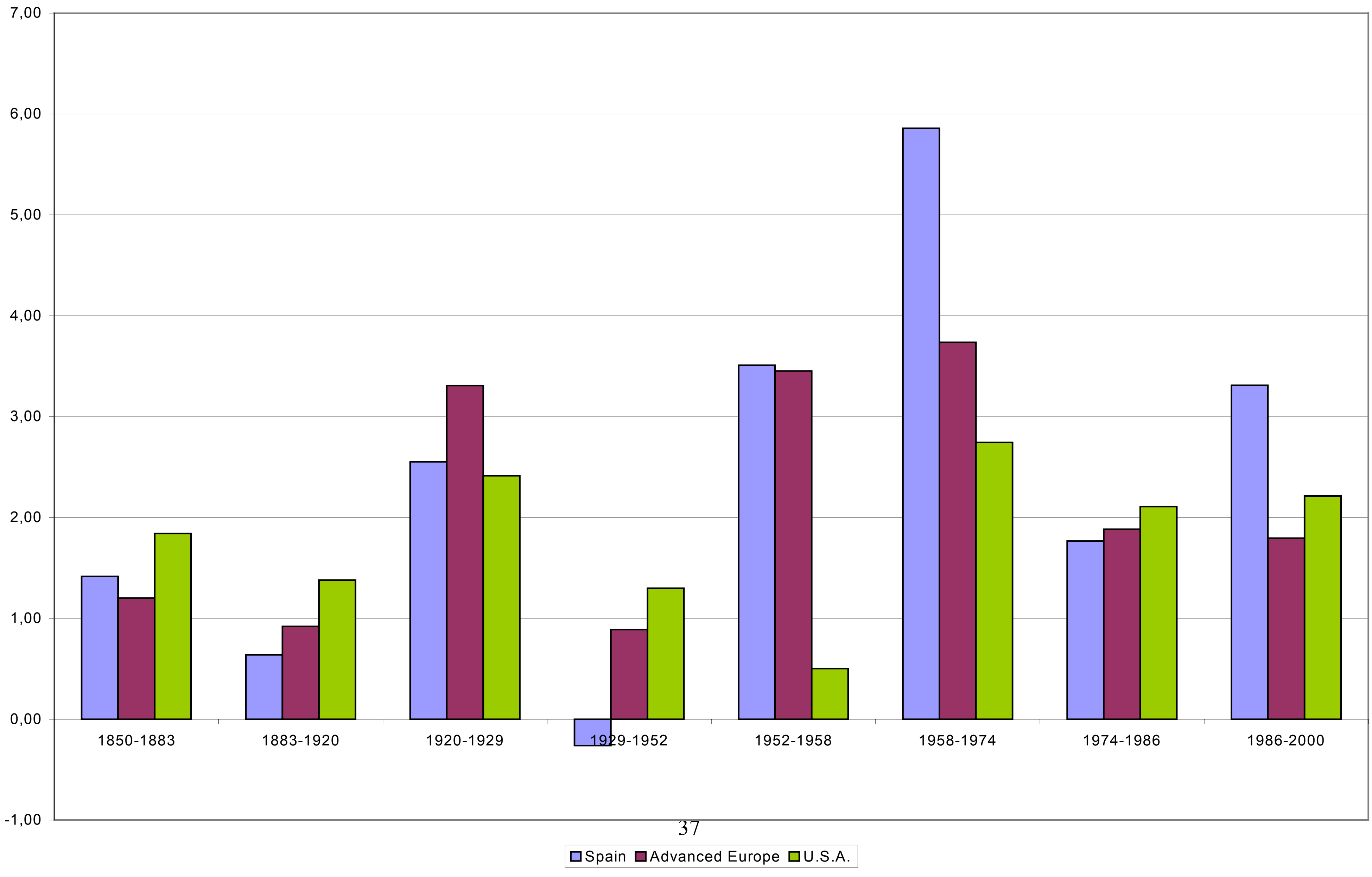
Graph 2. Investment (% GDP)



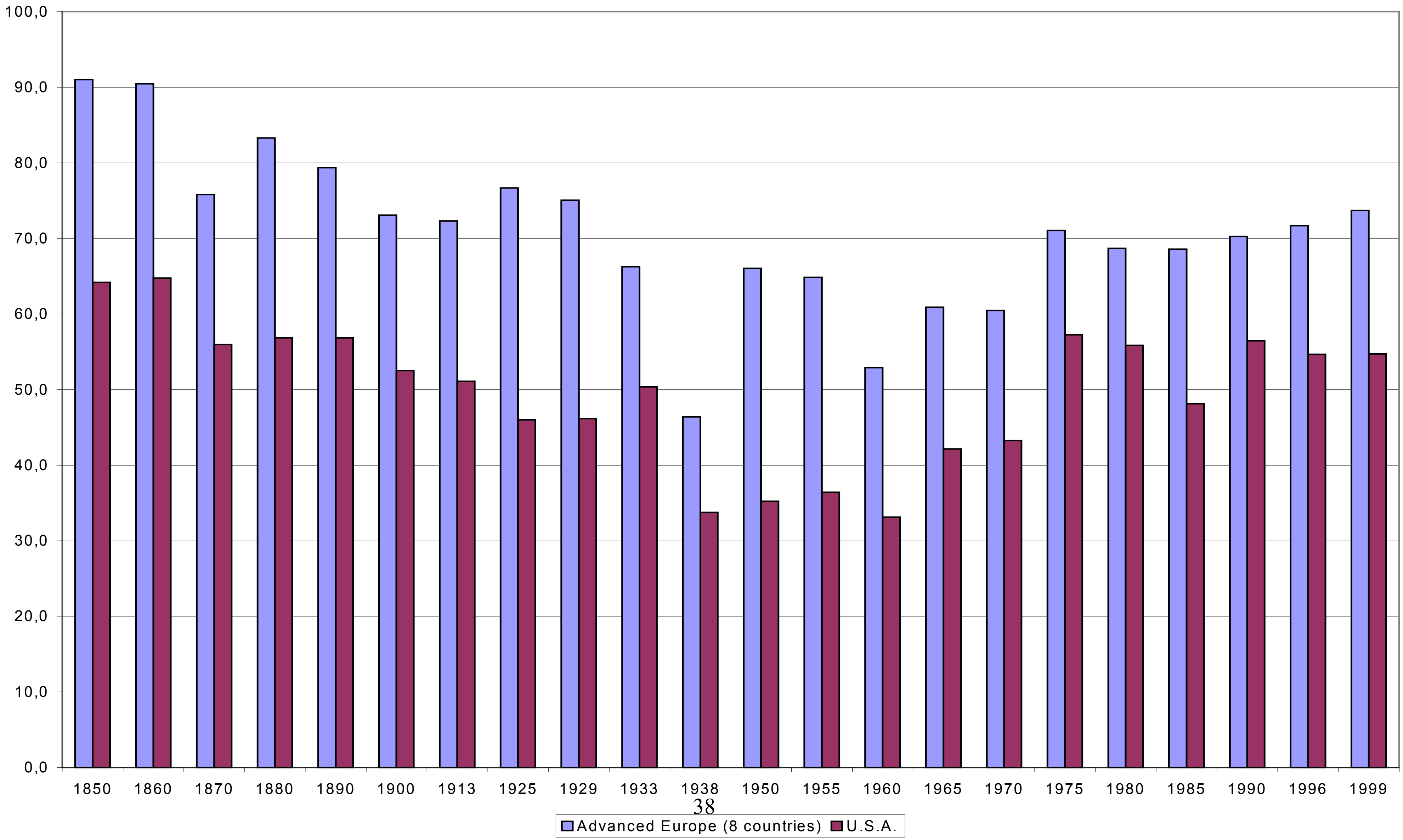
Graph 3. Openness (% GDP)



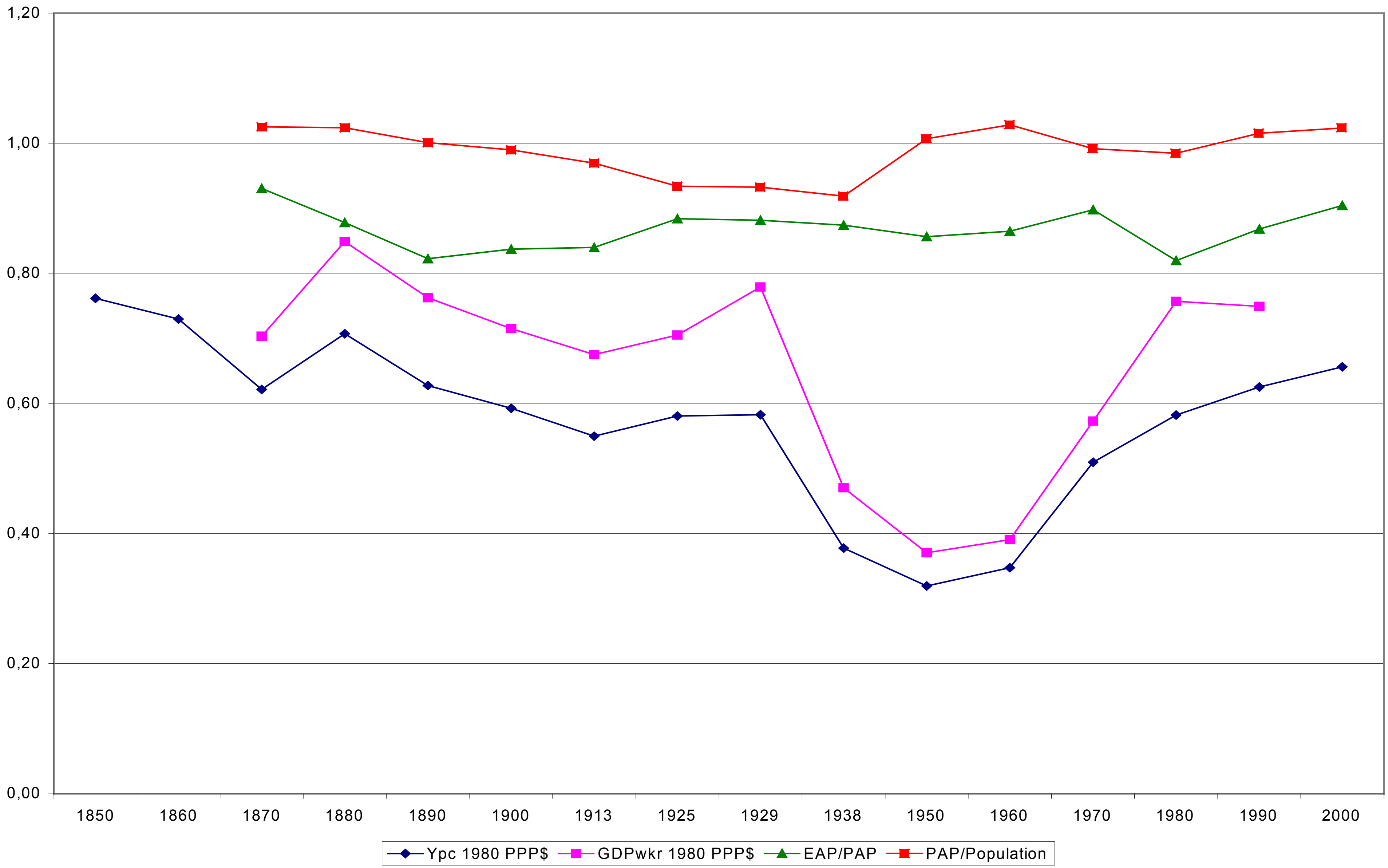
Graph 4. Comparative Per Capita GDP Growth, 1850-2000



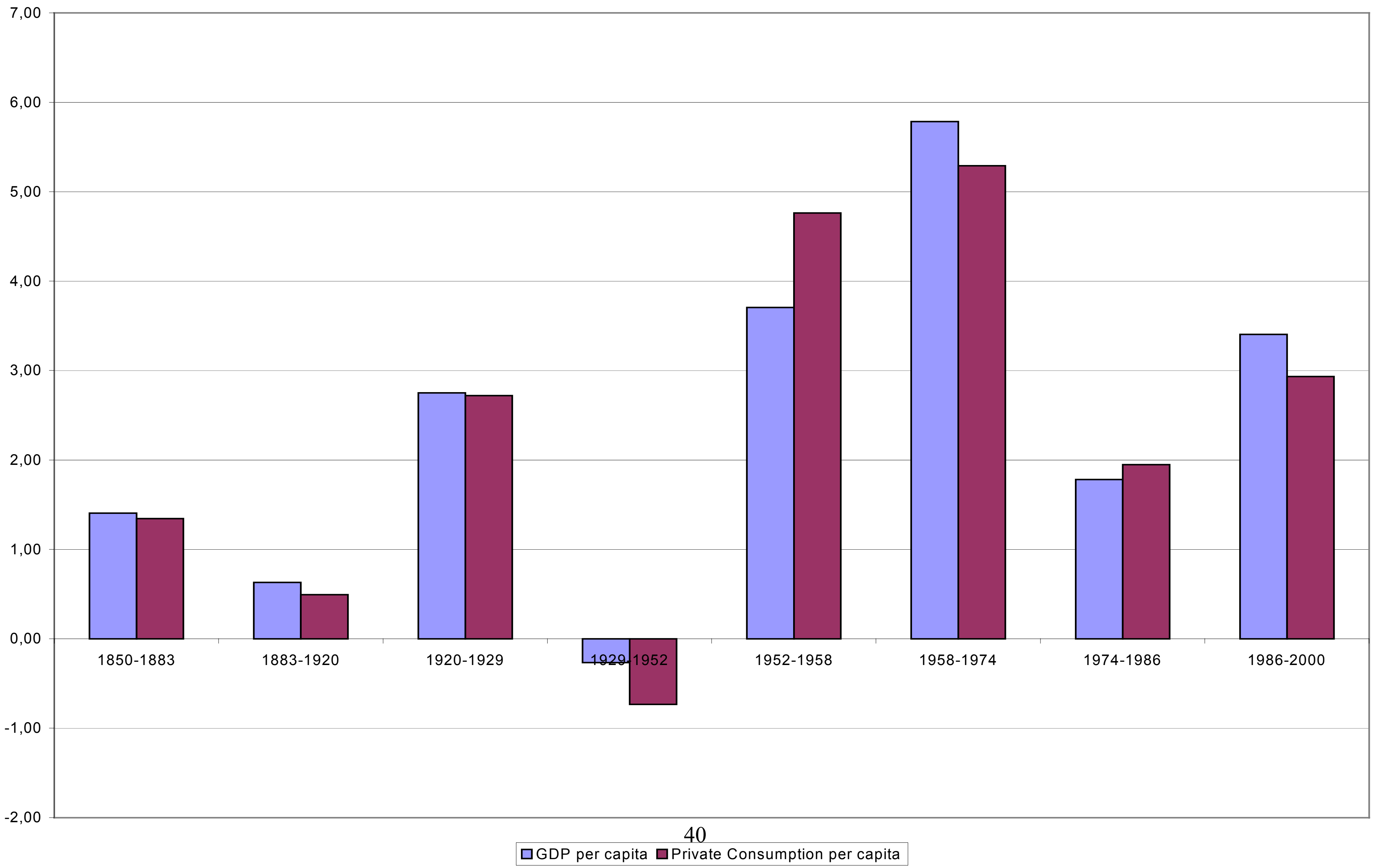
Graph 5. Relative Per Capita GDP in Spain, 1850-1999 (% Advanced Europe and % US) (US relative prices)



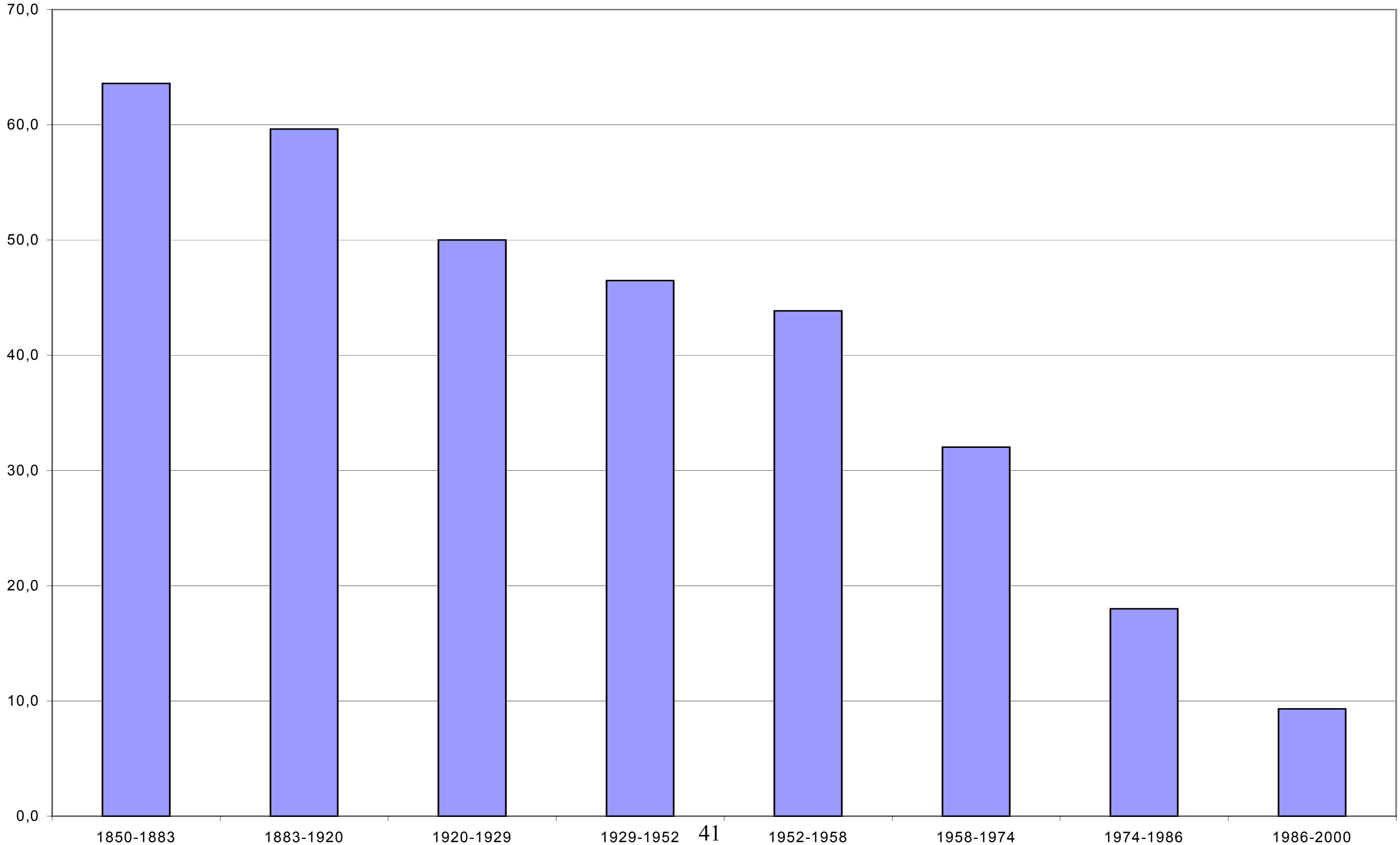
Graph 6. Decomposition of Spain's Relative Per Capita GDP (OECD15 =1)



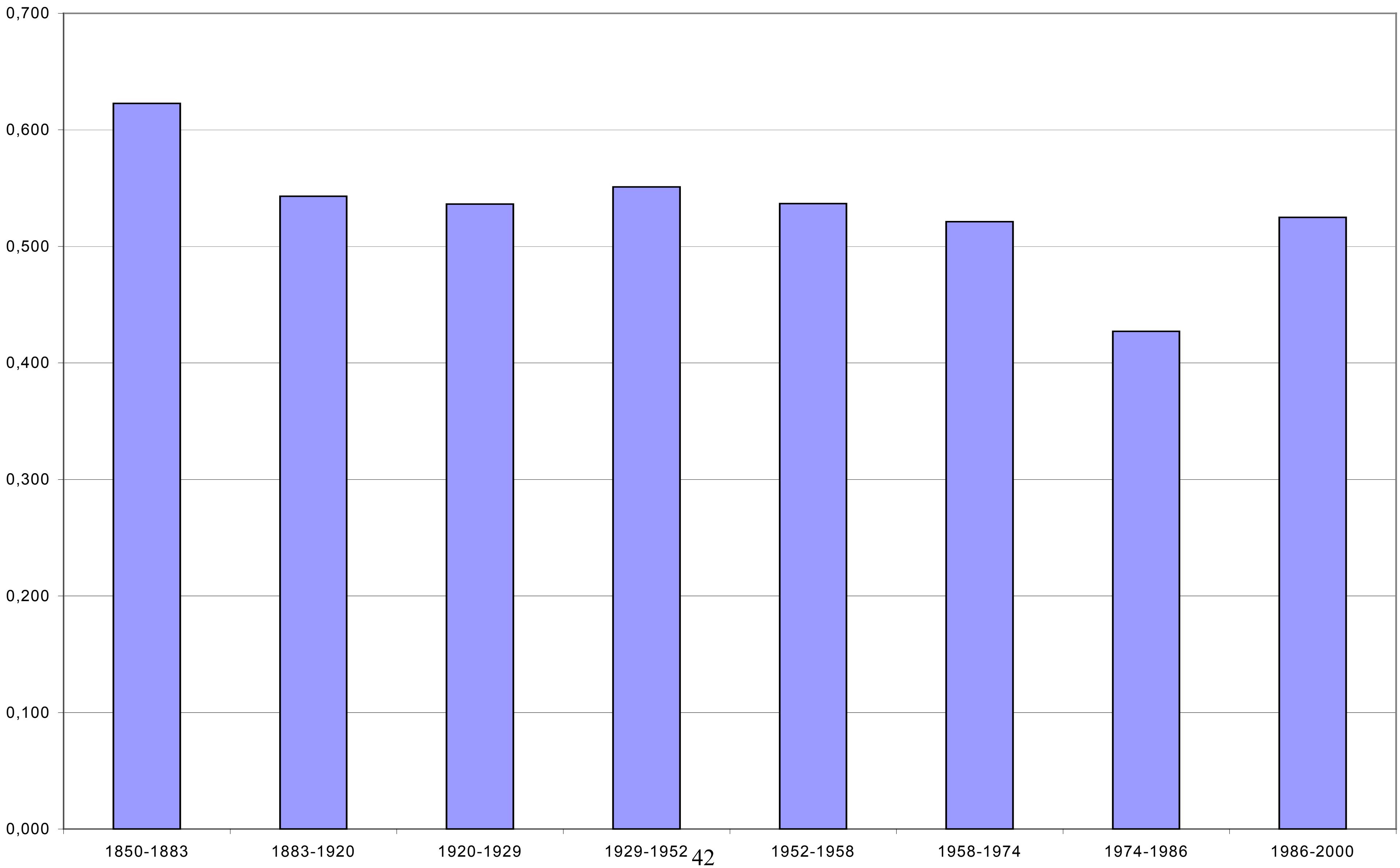
Graph 7. Per Capita GDP and Private Consumption Growth, 1850-2000 (annual average rate %)



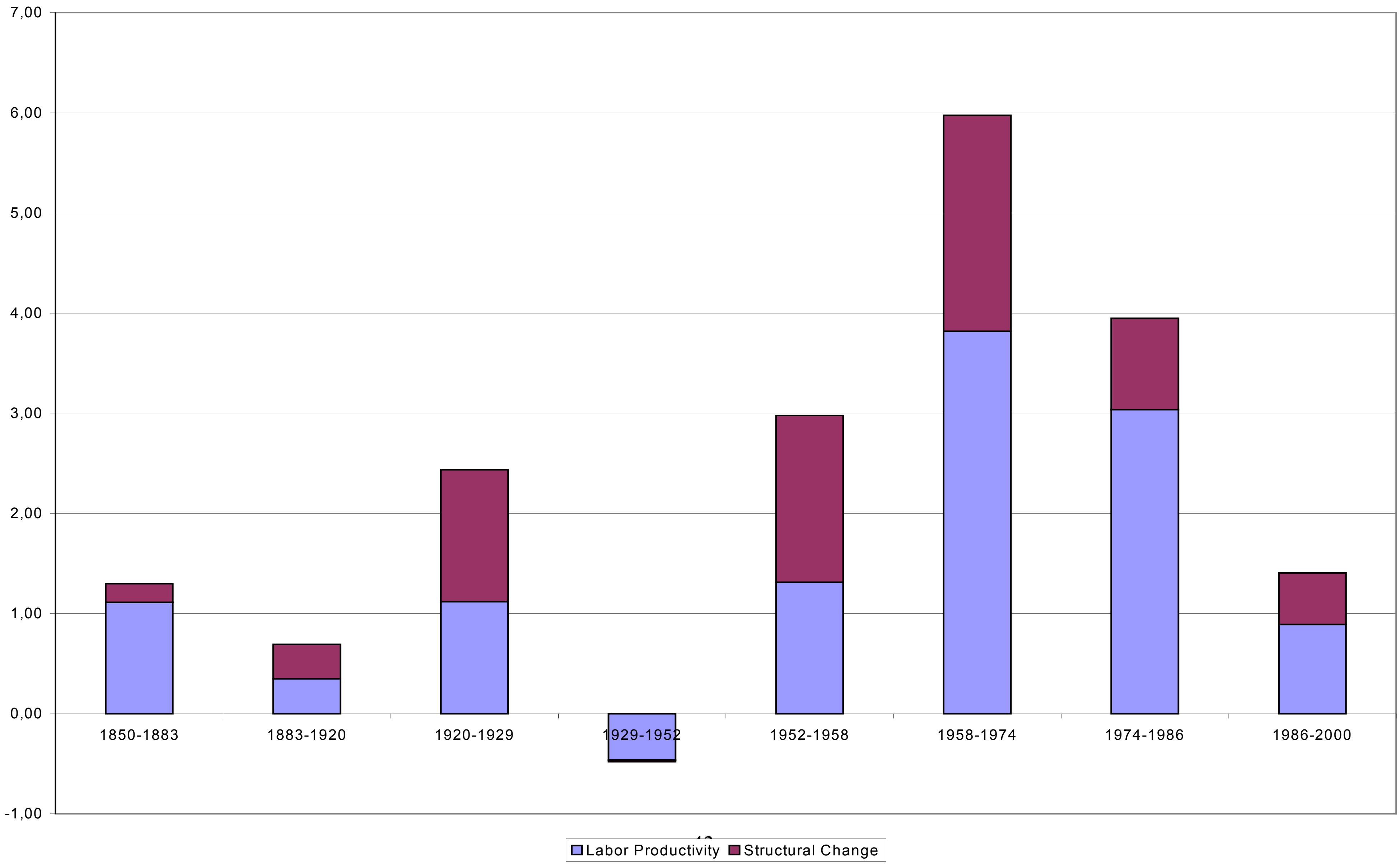
Graph 8. Agriculture's Share of Employment (%)



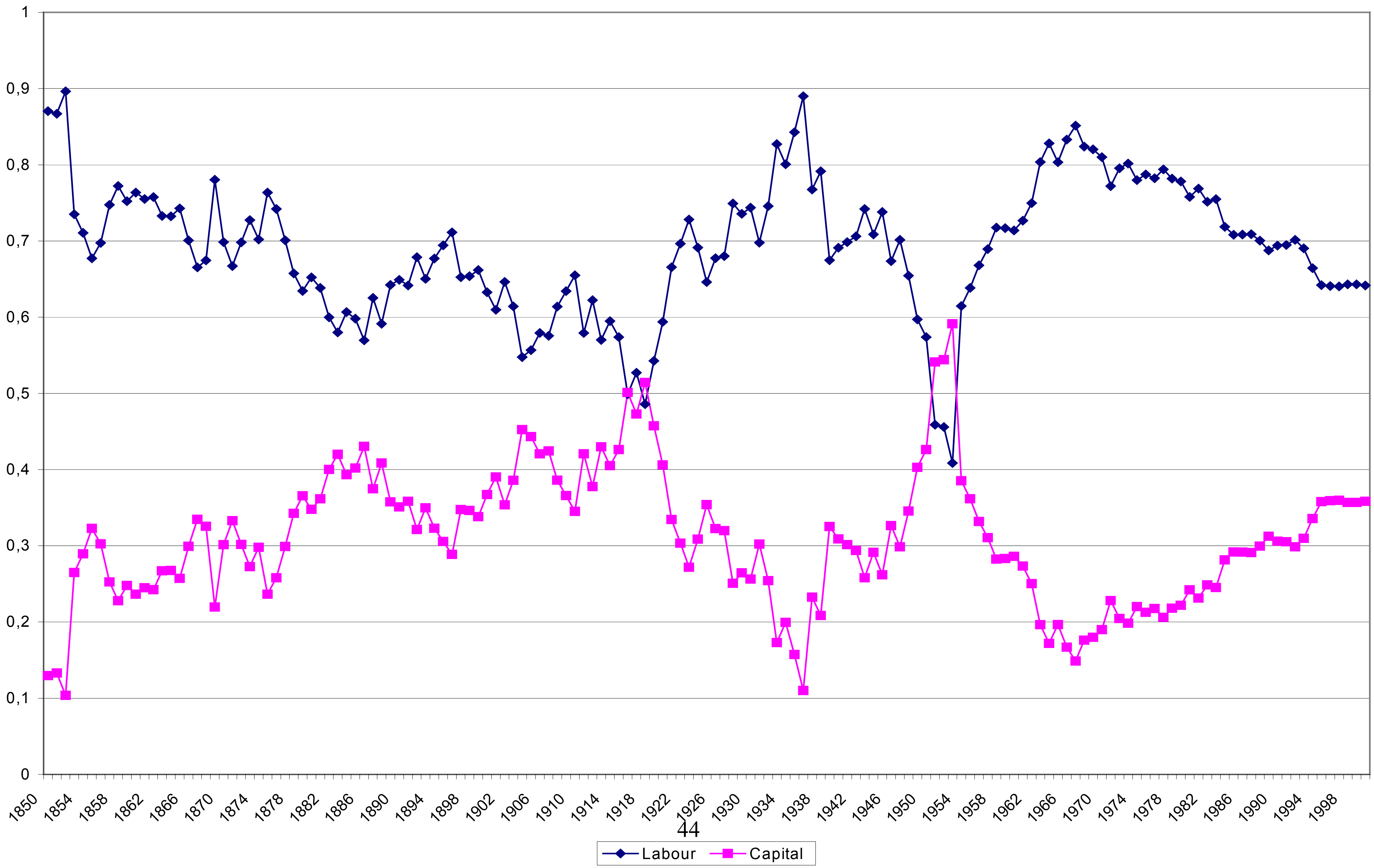
Graph 9. Agriculture's Relative Labor Productivity (% Aggregate Labor Productivity)



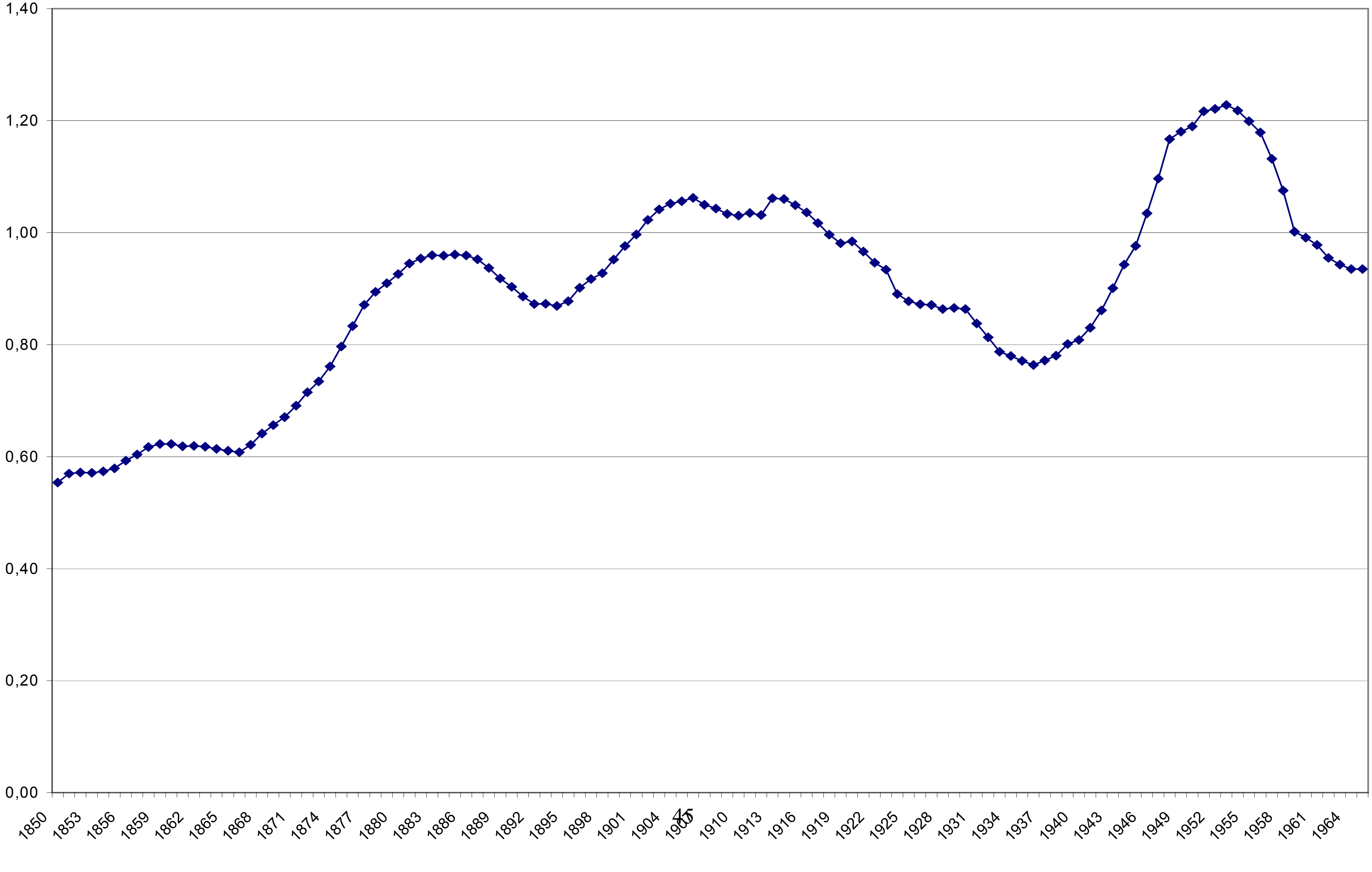
Graph 10. Labor Productivity and Structural Change



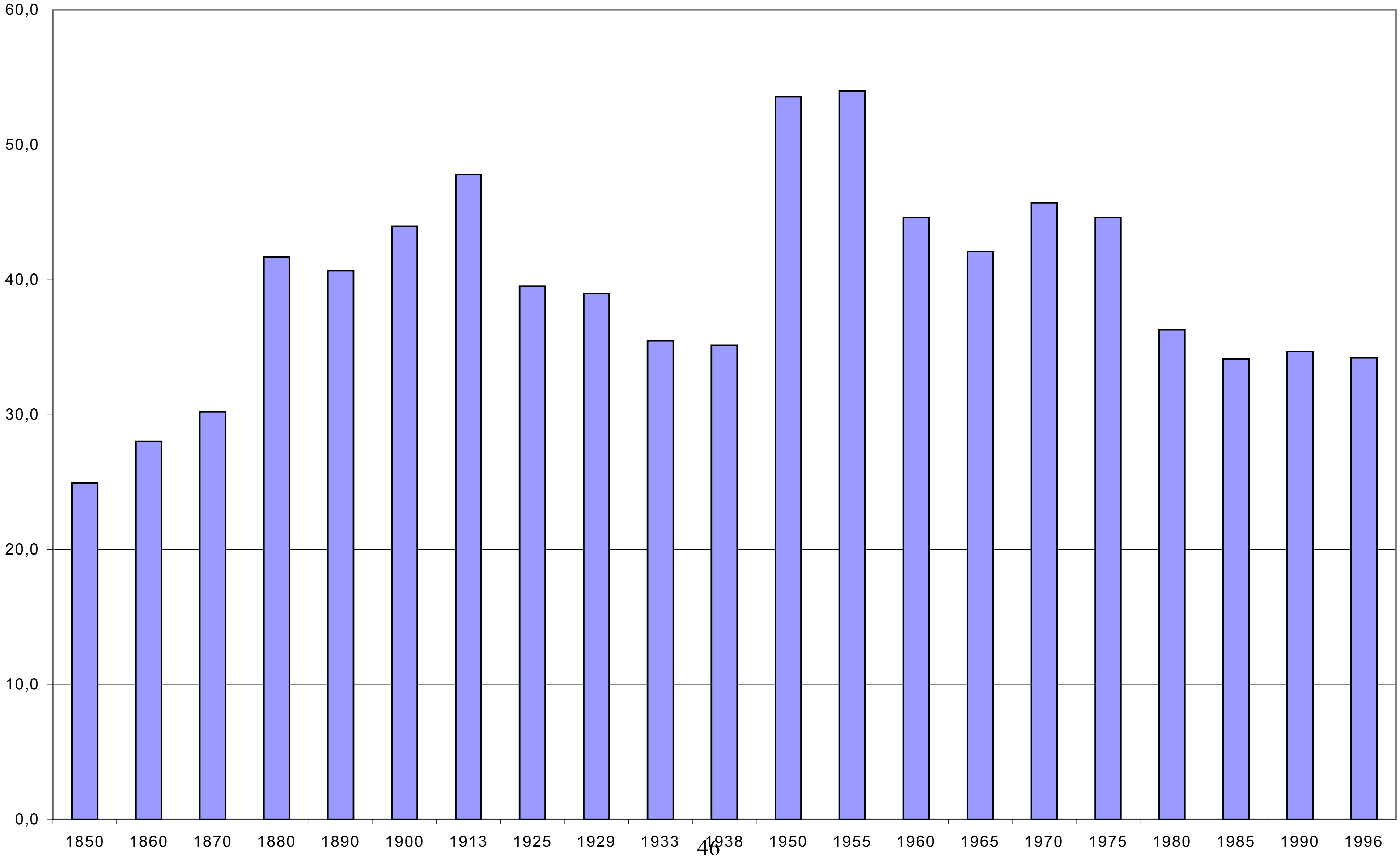
Graph 11. Factor Shares in Spain's GDP



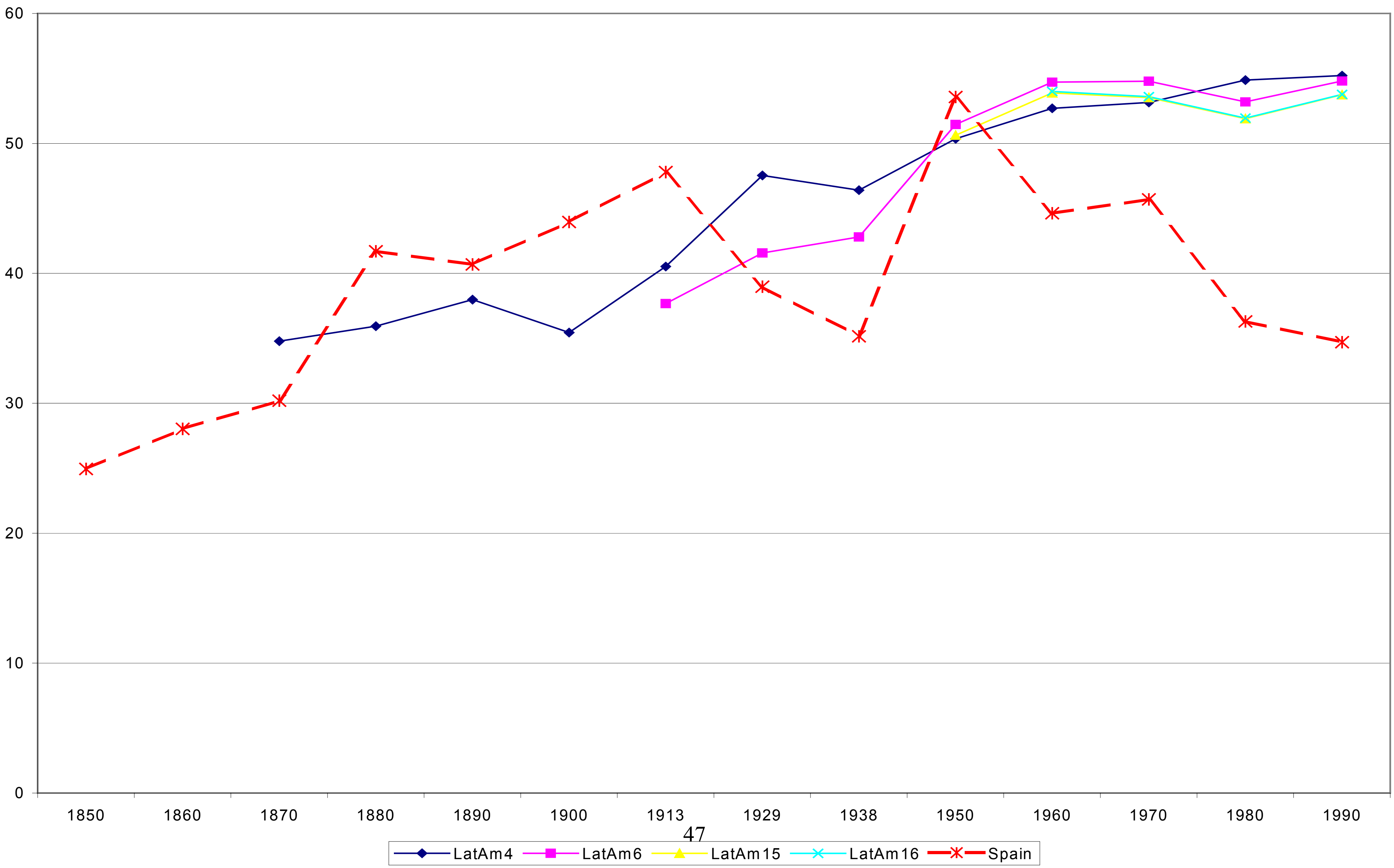
Graph 12. Inequality Index (GDP per EAP/ unskilled wage ratio)



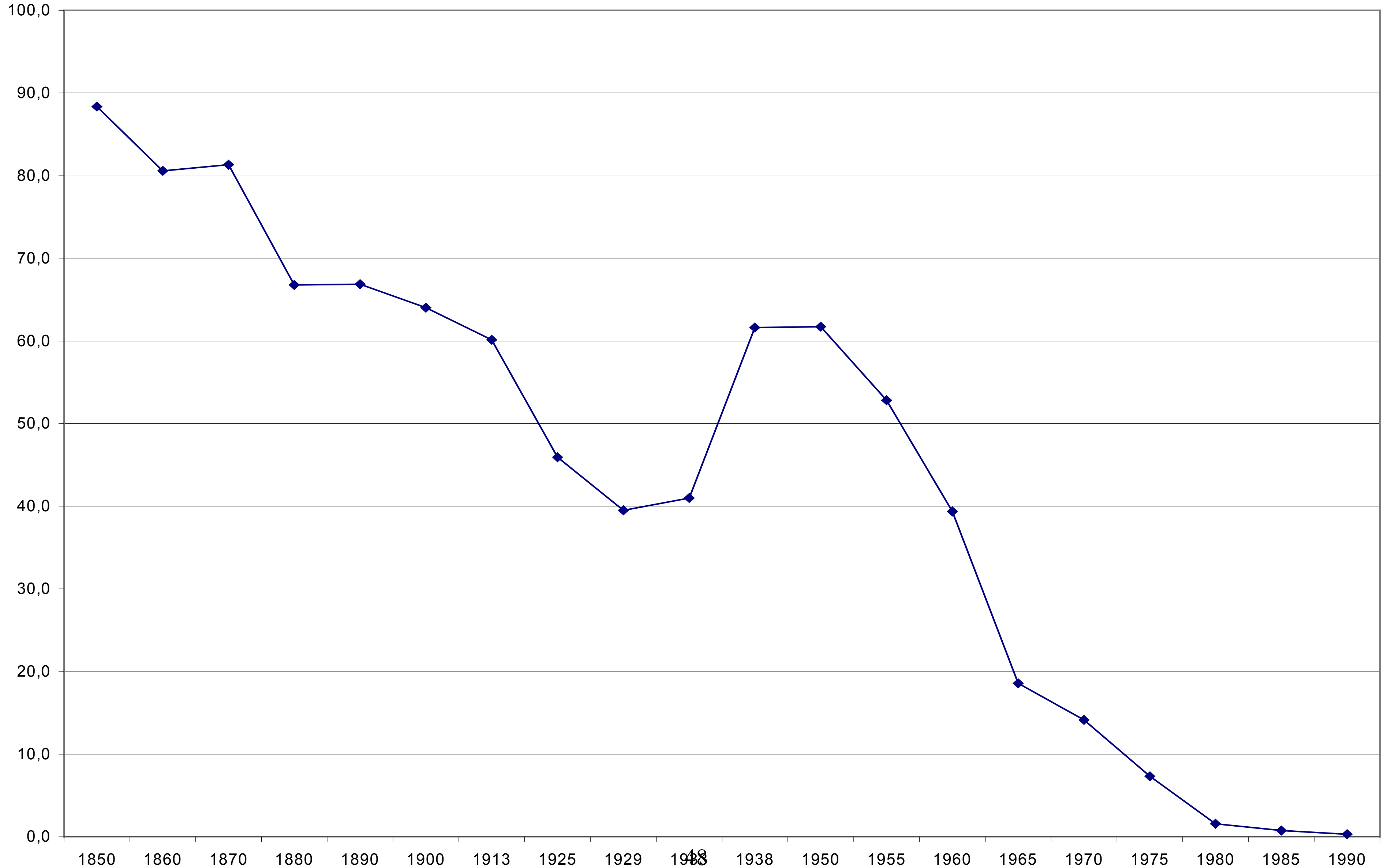
Graph 13. Gini Coefficients in Spain: Estimates and Conjectures



Graph 14. Inequality in Spain and Latin America: Gini Estimates and Conjectures



Graph 15. Poverty Headcount in Spain (Poverty Line 1980 $ G-K 4 a day per person)



Graph 16. Absolute Poverty in Spain and Latin America (%) (Poverty Line 1980 $ G-K 4 a day per person)